

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-025342**Date Inspected:** 19-Jul-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girder**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed on the various field fit-up of weld joints and the Complete Joint Penetration (CJP). The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) and the Flux Cored Arc Welding (FCAW-G) processes.

**A). Pipe Field Splices**

The QAI observed the continued CJP Welding of the 2.5" domestic water and 4.0" compressed air line systems field splices along gridline W5 at Orthotropic Box Girder (OBG) W2. The welding was performed by Rick Kiikvee ID-5319 utilizing the SMAW process as per the WPS identified as 1-12-1.

The QAI also observed the continued welding of the pipe supports identified as PS-5, PS-11, PS-16 and PS-20 which were located at the Cross Beam No.12 at Panel Point (PP) 81 . The field welding was performed by David Garcia ID-8789 utilizing a 3.2 mm electrode as per the Welding Procedure Specification (WPS) identified as Fillet Murex. The fillet welding was performed in the flat (1F), vertical (3F) and the overhead (4F) positions. The inspection was performed by the QC inspector, Steve Jensen, utilizing the WPS's to monitor the welding and to verify the welding parameters. The welding and inspection of the pipe field splices was not completed during this shift but the welding was completed on the pipe supports. This work was performed by the sub-contractor F.W. Spencer.

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## WELDING INSPECTION REPORT

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B). OBG 11E/12E

The QAI observed the CJP welding of the side plate field splices identified as Weld Number (WN): 11E-12E-C. The welding was performed by Wai Kitlai ID-2953 and Hua Qiang Hwang ID-2930 utilizing the FCAW-G process as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1040A, Rev. 1. The WPS was also utilized by the QC Inspector Fred Von Hoff as a reference when monitoring the welding and verifying the welding parameters. The in process welding and inspection appeared to comply with the contract specifications.

This QA Inspector also performed a daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders, Longitudinal and Transverse "A" Deck Stiffeners and Deck Access Holes.

### QA Summary

The welding was performed in the flat and horizontal positions utilizing the low hydrogen H4R electrodes and the E71T-1 consumable. The 3.2 mm electrodes were stored in electrically heated, thermostatically controlled oven after the removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

### Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection and N.D.E. testing personnel scheduled for this shift.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Reyes,Danny	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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